

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-12 (Canceled)

Claim 13 (Original): A manufacturing method of a capacitor comprising the steps of:

forming a first conductive layer containing a first metal on an insulating layer;

forming a second conductive layer made of a metal oxide of a second metal, that is different from the first metal, on the first conductive layer;

forming a third conductive layer made of a third metal, that is different from the first metal, on the second conductive layer;

forming a dielectric layer on the third conductive layer;

forming a fourth conductive layer on the dielectric layer;

patterning the fourth conductive layer to form a capacitor upper electrode;

patterning the dielectric layer to form a capacitor dielectric layer; and

patterning the first conductive layer, the second conductive layer, and the third conductive layer to form a capacitor lower electrode.

Claim 14 (Original): A manufacturing method of a capacitor according to claim 13,

wherein an element of the first metal is iridium, a metal oxide of the second metal is a metal oxide of a platinum group, that is different from the iridium, and the third metal is a metal of the platinum group, that is different from the iridium.

Claim 15 (Original): A manufacturing method of a capacitor according to claim 13, wherein the second metal is a same element as the third metal, and

further comprising the step of forming an interface conductive layer made of the second metal between the first conductive layer and the second conductive layer.

Claim 16 (Original): A manufacturing method of a capacitor according to claim 13, wherein formation of the first conductive layer contains the step of forming the first metal layer and the first metal oxide layer sequentially.

Claim 17 (Original): A manufacturing method of a capacitor according to claim 16, wherein the first metal layer is an iridium layer, and the first metal oxide layer is iridium oxide, and

the iridium oxide is formed by adjusting an oxygen gas and an inert gas in a growth atmosphere to attain IrO_x ($0 < x < 1.2$).

Claim 18 (Original): A manufacturing method of a capacitor according to claim 13, wherein, in the step of forming the second conductive layer, the second conductive layer made

of platinum oxide is formed at a temperature of more than 200 °C and less than 400 °C.

Claim 19 (Original): A manufacturing method of a capacitor according to claim 13, wherein, in the step of forming the third conductive layer, the third conductive layer made of platinum is formed at a temperature of less than 400 °C.

Claims 20-31 (Canceled)